

90. The noise elimination device according to claim 83 wherein the housing is substantially tube-shaped and the two ends of the housing are insulated from one another.

91. The noise elimination device according to claim 84 wherein the housing is substantially tube-shaped and the two ends of the housing are insulated from one another.

92. The noise elimination device according to Claim 3 further comprises a transformer connected in series with the coil.

REMARKS

Applicants request reconsideration and reexamination of the above-identified application in view of the following amendments made to the claims and the drawings. The following remarks state Applicants' bases for making this request and are organized according to the Examiner's Action by paragraph number.

In accordance with Rule 121, Applicants have provided the amended claims in clean form and indicated the status of each claim. The marked-up amended claims are attached hereto as Appendix A showing all changes relative to the previous version of the claims.

1. The Examiner acknowledges receipt of the certified priority documents required under 35 U.S.C. 119(a)-(d).

2. The Examiner states that the drawings are objected to as failing to comply with 37 C.F.R. 1.84(p)(5) because they include the reference sign(s) "8a" and "8b" not mentioned in Figure 1, and correction is required. In the Specification on page 7, line 6, coaxial cable is assigned reference sign "8" and the reference signs "8a" and "8b" were intended to refer to the same coaxial cable 8. Therefore, Applicants are amending FIG. 1 by changing "8a" and "8b" to "8", and adding "8" in the "Magnification of A1 and A2" portion in FIG. 1. These changes are marked in red ink in the enclosed FIG. 1 and Applicants request the Examiner's approval.

3,4. The Examiner states that Claims 1-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner states that Claim 1 recites the limitation "the skin effect" in line 9 and there is insufficient antecedent basis for this limitation in the claims. Applicants are amending Claim 1 to change "the skin effect" to "a skin effect", and Applicants believe that Claim 1 is now definite and patentable.

The Examiner states that in Claims 2 and 4, it was not clear as to which type of core the cable was wound about because it was understood by the Examiner that either an open or closed magnetic core might be used. Applicants are amending Claims 2 and 4 to call for "...a coil made by winding a coaxial cable around at least one of an open magnetic core, a closed magnetic core, or both an open magnetic core and a closed magnetic core connected in series." Applicants believe that Claims 2 and 4 are now definite and patentable.

The Examiner states that Claim 5 recites the limitation "the core conductors" and "the outer conductors" and that there is insufficient basis for these limitations in the claims. Applicants are amending Claim 5 by deleting "the" before "core conductors" and deleting "the" before "outer conductors". Further, Applicants are deleting the word "two" before "coaxial connectors" in two places in Claim 5 because of insufficient antecedent basis. Therefore, Applicants believe that Claim 5 is now definite and patentable.

The Examiner states that Claim 9 recites the limitation "the coil", but there is insufficient antecedent basis for this limitation in the claim. Applicants are amending Claim 9 by deleting "the" before "coil" and inserting "a". Further, Applicants are deleting "two" before "coaxial" and before "housing", and adding "independent" before " housings" in two places in Claim 9 for proper antecedent basis. Also,

Applicants are adding "of said noise elimination circuit" after "a coil" for clarity. Therefore, Applicants believe that Claim 9 is now definite and patentable.

The Examiner states that Claims 6-89 were not written clearly enough to be examined and cites examples of claims not having sufficient antecedent basis. Applicants have restudied Claims 1-89 and are canceling Claims 16, 22, 28-40, 47-64, 70-76 and 82. Also, Applicants are amending Claims 1, 2, 4, 5, 9, 10, 12-15, 20, 41, 44, 45, 87 and 88 to provide sufficient antecedent basis to make the claims definite and patentable.

Applicants are adding new Claims 90, 91 and 92. Claims 90 and 91 provide proper antecedent basis for the original multiple dependent Claim 6, and the limitation of Claim 92 was originally included in Claim 41 as part of the original multiple dependent Claim 41.

In view of the above, Applicants believe that Claims 1-15, 17-21, 23-27, 41-45, 65-69, 77-81, 83-89 as amended and new Claims 90, 91 and 92 are now definite and patentable and in condition for allowance. Reconsideration of the application is respectfully requested. Accordingly, Applicants request that the foregoing amendment be entered and the case sent to issue.

If there are any questions, we urge the Examiner to call us. Please charge any costs in connection with this document to our Deposit Account No. 16-0875.

Respectfully Submitted,

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APPENDIX A

MARKED-UP AMENDED CLAIMS

1. (Amended) A noise elimination device, comprising:
a housing provided with coaxial connectors on both ends;
and
a noise elimination circuit arranged inside the housing;
wherein a ground conductor thickness of a coupling portion
coupling the noise elimination circuit with the coaxial
connectors is at least twice a skin depth due to [the] a skin
effect at a transmission signal frequency.

2. (Amended) The noise elimination device according to
Claim 1, wherein the noise elimination circuit includes a coil
made by winding a coaxial cable around at least one of an open
magnetic core, [and] a closed magnetic core, or both an open
magnetic core and a closed magnetic core connected in series.

4. (Amended) A method for installing a noise
elimination device, the noise elimination device comprising:
a housing provided with coaxial connectors on both ends;
[and]
a noise elimination circuit arranged inside the housing;
wherein a ground conductor thickness of a coupling portion
coupling the noise elimination circuit with the coaxial

connectors is at least twice a skin depth due to the skin effect at a transmission signal frequency;

wherein the noise elimination circuit includes a coil made by winding a coaxial cable around at least one of an open magnetic core, [and] a closed magnetic core, or both an open magnetic core and a closed magnetic core connected in series; and

wherein the noise elimination device further includes a highpass filter arranged in series with the coil;

the method comprising:

placing the coil closer to a noise generating side than the highpass filter when installing the noise elimination device in a signal transmission line including a coaxial cable.

5. (Amended) The noise elimination device according to Claim 1, wherein the noise elimination circuit is made by coupling [the] core conductors of the [two] coaxial connectors via a first coil wound around a ferrite core, coupling [the] outer conductors of the [two] coaxial connectors via a second coil wound around the ferrite core, inserting a capacitor on at least one of the two sides of both the first and second coil, providing a first choke coil in parallel with the first coil and the capacitor provided on the side of the first coil, and providing a second choke coil in parallel with the second coil and the capacitor provided on the side of the second coil.

9. (Twice Amended) The noise elimination device according to Claim 1, wherein the [two] coaxial connectors are formed each in independent housings, the [two] independent housings are connected with a coaxial cable, and [the] a coil of said noise elimination circuit is provided in one of the [two] independent housings.

10. (Amended) The noise elimination device according to Claim 6, wherein the [two coaxial connectors] plug connector and the jack connector are formed each in independent housing, the [two] independent housings are connected with a coaxial cable, and [the] a coil is provided in one of the [two] independent housings.

12. (Twice Amended) The noise elimination device according to Claim 84, wherein the first coil and the second coil are made by serially winding around two ferrite cores, wherein one ferrite core is a closed magnetic ferrite core and the other ferrite core is an open magnetic ferrite core.

13. (Twice Amended) The noise elimination device according to Claim 86, wherein the first coil and the second coil are made by serially winding around two ferrite cores, wherein one ferrite core is a closed magnetic ferrite core and the other ferrite core is an open magnetic ferrite core.

14. (Amended) The noise elimination device according to Claim [8] 91, wherein the first coil and the second coil are made by serially winding around two ferrite cores, wherein one ferrite core is a closed magnetic ferrite core and the other ferrite core is an open magnetic ferrite core.

15. (Twice Amended) The noise elimination device according to Claim [89] 88, wherein the first coil and the second coil are made by serially winding around two ferrite cores, wherein one ferrite core is a closed magnetic ferrite core and the other ferrite core is an open magnetic ferrite core.

20. (Amended) The noise elimination device according to Claim [8] 91, wherein a conductor of the first coil is made of a center conductor and a conductor of the second coil is made of an outer conductor covering the center conductor, so that the coil conductors are arranged as a coaxial cable.

41. (Twice Amended) The noise elimination device according to Claim [3] 2 further comprising a transformer connected in series to the coil.

44. (Amended) The noise elimination device according to Claim [8] 90 further comprising a transformer connected in series to the coil.

46. (Amended) The noise elimination device according to Claim 10 [further comprising] comprises a transformer connected in series to the coil.

87. (Amended) The noise elimination device according to Claim 3, wherein the [two] coaxial connectors are formed each in independent housings, the [two] independent housings are connected with a coaxial cable, and the coil is provided in one of the [two] independent housings.

88. (Amended) The noise elimination device according to Claim 5, wherein the [two] coaxial connectors are formed each in independent housings, the [two] independent housings are connected with a coaxial cable, and the coil is provided in one of the [two] independent housings.